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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/718,981

11/20/2003

Taison Tan

Q175-US1

2730

31815 7590 08/12/2008
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EXAMINER

HODGE, ROBERT W

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

08/12/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/718,981	Applicant(s) TAN ET AL.	
	Examiner ROBERT HODGE	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-23,25-47,74 and 75 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-23,25-47,74 and 75 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments, see Remarks, filed 6/18/08, with respect to the rejection(s) of claim(s) 19-23, 26, 29, 32 and 33 under 35 U.S.C. 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of U.S. Pre-grant Publication No. 2002/0004169.

The remainder of applicant's arguments filed 6/18/08 have been fully considered but they are not persuasive. Applicants state that no extrinsic evidence to show inherency has been provided. However this is not the case on page 4 of the Non-Final office action dated 3/18/08 it is stated in part:

“Regarding claims 32-47 because the chemistry of the instantly claimed invention has been found it is the Examiner's position that the battery of Beard will exhibit the same and/or substantially similar characteristics to that of the instant claimed invention as outlined in claims 32-47 and therefore Beard reads on the claims as so recited”.

Having similar chemistry is extrinsic evidence and the burden has been properly shifted to applicants to prove in the form of evidence otherwise. Applicants should also be aware that: As a practical matter, the Patent Office is not equipped to manufacture products by the myriad of processes put before it and then obtain prior art products and make physical comparisons therewith.” In re Brown, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972). Conclusory statements are not probative unless supported by facts.

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See Ex parte Gray 10 USPQ 2d 1922 (BPAI 1989); In re de Blauwe 222 USPQ 191, 196 (Fed. Cir. 1984); In re D'Ancicco 172 USPQ 241 (CCPA 1972); In re Grunwell 203 USPQ 1055 (CCPA 1979); Meitzner v. Mindick 193 USPQ 17; In re Brandstandter 179 USPQ 286, 294 (CCPA 1973); In re Lindner 173 USPQ 356; and In re Smith 74 USPQ 207.

It is also noted that applicants' arguments are not commensurate in scope with the instant claims. Applicants state that the chemistry of Beard is not the same as the instant invention. However the prosecution on the merits is a result of the claimed invention not the actual instant invention and the majority of the independent claims along with the majority of their dependent claims do not recite the actual chemistry of the battery and when given the broadest most reasonable interpretation, the Beard reference reads on the claims as recited.

Furthermore with regard to the recitation of "concentration gradient" such as in claim 1, said recitation does not provide any range and therefore the recitation reads on at least a uniform concentration gradient such as was explained on page 4 of the Non-Final Office action dated 3/18/08 wherein it was stated:

"It is noted that the layer 14 of lithium metal will have a uniform concentration gradient and the layer 15 of intercalating material will have a concentration gradient consistent with a porous material".

Therefore not only is the concentration gradient inherently present in the Beard reference, there is in fact a disclosure of two different types of gradients in Beard that

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read on the recitation of "concentration gradient" when given the broadest most reasonable interpretation.

Regarding claim 11, applicants state that they don't understand how Beard can be combined with Yamada. It was clearly stated on page 6 as follows:

"At the time of the invention it would have been obvious to one having ordinary skill in the art to use LiSiO as the active material for the intercalating layer in Beard as taught by Yamada in order to provide a lithium primary battery that has improved discharging characteristics that will prevent deterioration during discharging of the battery thus improving the overall performance of the battery".

Due to the fact that Application No. 10/719,276 was abandoned on 6/12/08, the Double Patenting Rejection is withdrawn. It is acknowledged that claim 4 has been canceled and therefore the objection to the Drawings and Specification are withdrawn. The remainder of the rejections will be maintained for reasons established above.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5-10, 14, and 34-47 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,147,739 hereinafter Beard.

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Regarding claims 1-3, 5-10, and 14 as seen in figure 1A, Beard teaches a primary battery (abstract) comprising a cathode 11 which does not contain lithium (Examples III-V in Table 1), an anode 12 having two separate layers disposed on the current collector, one layer 14 is a lithium metal active material layer and the other layer 15 is an intercalating compound which contains lithium (column 4, lines 28 et seq.) as an active material, an electrolyte solution which contains lithium in contact with the cathode and the anode (column 3, lines 47-53), wherein the layer 15 is positioned such that it protects the layer 14 from the electrolytic solution while allowing the electrochemical reaction to take place (column 4, line 53 – column 6, line 20). It is noted that the layer 14 of lithium metal will have a uniform concentration gradient and the layer 15 of intercalating material will have a concentration gradient consistent with a porous material.

Regarding claims 34-47 because the chemistry of the instantly claimed invention has been found it is the Examiner's position that the battery of Beard will exhibit the same and/or substantially similar characteristics to that of the instant claimed invention as outlined in claims 34-47 and therefore Beard reads on the claims as so recited. A reference, which is silent about a claimed invention's features, is inherently anticipatory if the missing feature *is necessarily present in that which is described in the reference*. In re Robertson, 49 USPQ2d 1949 (1999). Therefore the burden is shifted to applicants to provide **evidence** (not arguments) comparing the prior art invention of Beard to the instant invention.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 12, 13, and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beard in view of U.S. Pre-Grant Publication No. 2003/0211383 hereinafter Munshi.

Beard as discussed above is incorporated herein.

Beard does not teach that the cathode comprises a fluorinated carbon, or that the electrolyte comprises lithium bis(oxalate) borate.

Munshi teaches a primary lithium battery comprising a lithium or lithium alloy anode such as a lithium-silicon alloy, a cathode comprising a fluorinated carbon (i.e. CF_x) and a non-aqueous electrolyte comprising lithium bis(oxalate)borate (see paragraphs [0014], [0020], [0024], [0025] and [0028]).

At the time of the invention it would have been obvious to one having ordinary skill in the art to use CF_x for the cathode material and lithium bis(oxalate)borate in the electrolyte of Beard as taught by Munshi in order to provide a cathode that has increased kinetic properties and the ability to maintain excellent conductivity during discharge of the battery, which reduces the overall cell resistance and to provide an electrolyte that demonstrates excellent chemical and electrochemical stability when it is in contact with lithium, thus improving the over all performance of the battery.

Claims 11, 19-23, 25, 26, 29, 32, 33, 74 and 75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beard in view of U.S. Pre-Grant Publication No. 2002/0004169 hereinafter Yamada.

Beard as discussed above is incorporated herein.

Beard does not teach that the intercalating compound contains silicon, or that it includes lithium, silicon and oxygen such as LiSiO or SiO or that both LiSiO and SiO are present.

Yamada teaches a non-aqueous electrolyte lithium battery wherein the anode comprises at least two materials including LiSiO and SiO as the active materials are present in the intercalating layer of the anode (abstract and paragraphs [0046]-[0048]).

At the time of the invention it would have been obvious to one having ordinary skill in the art to use both LiSiO and SiO as the active materials for the intercalating layer in Beard as taught by Yamada in order to provide a lithium primary battery that has improved discharging characteristics that will prevent deterioration during discharging of the battery thus improving the overall performance of the battery.

Claims 27, 28, 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beard in view of Yamada as applied to claim 19 and 29 above, and further in view of Munshi.

Beard does not teach that the cathode comprises a fluorinated carbon, or that the electrolyte comprises lithium bis(oxalate) borate.

Munshi as discussed above is incorporated herein.

At the time of the invention it would have been obvious to one having ordinary skill in the art to use CF_x for the cathode material and lithium bis(oxalate)borate in the electrolyte of Beard as modified by Yamada as taught by Munshi in order to provide a cathode that has increased kinetic properties and the ability to maintain excellent conductivity during discharge of the battery, which reduces the overall cell resistance and to provide an electrolyte that demonstrates excellent chemical and electrochemical stability when it is in contact with lithium, thus improving the over all performance of the battery.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT HODGE whose telephone number is (571)272-2097. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. H./
Examiner, Art Unit 1795

/Jonathan Crepeau/
Primary Examiner, Art Unit 1795